

HEADPHONES

INTRODUCTION

In last month's *Shopper* we tested 16 MP3 players and found that while their sound quality was usually very high, the headphones included with most were poor. If you've treated yourself to a new player, you may be considering a headphone upgrade already.

If you want to listen to music while travelling, a comfortable set of headphones that doesn't leak noise will make the journey more pleasant for you and your fellow passengers. Even if you mostly listen to a home stereo or television, there will be times when nobody else wants to hear it. Choosing the right pair makes personal listening a pleasure rather than an obligation.

This month, we've gathered 14 pairs of headphones ranging from simple earphones to high-quality headphones and sets that can reduce background noise. We'll tell you which are alive with the sound of music, and which are just a total pain in the ears.

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MUSIC TO YOUR EARS

You've got the tunes and the music player – so why settle for inferior headphones? We review 14 pairs to find the perfect blend of sound quality and comfort that'll make every sonic experience super

Choosing... Headphones

When choosing earphones or headphones, the most important decision is which type of fit you prefer. Headphones are typically held together by a band that passes over the top of your head. They are either held against the outer ear or fit entirely around it. Earphones are smaller, and either rest in the folds of the outer ear or fit securely into the ear canal.

SOUND BARRIERS

MP3 players and other personal stereos usually come with earphones. These are light and comfortable but don't do much to block out external noise. Earplugs are an alternative type of earphone that push a little way into the ear canal. They do a better job of blocking out unwelcome noise, so you can listen to music at lower volumes, but some people find them uncomfortable.

On-ear headphones are larger and heavier than a pair of earphones, but they're not as bulky as a full-size pair of around-ear headphones. Many pairs are light and can fold to fit in a compact case so, like earphones, they're suitable for use while travelling. Around-ear headphones, however, are comparatively big and heavy. Some need a loud input volume, so they're more suited to use with a hi-fi than a portable MP3 player.

One of the most important factors effecting how an earphone or headphone sounds is whether the back of the driver, which faces away from the ear, is open or closed. Closed drivers create a barrier against external noise, so you can listen to your music at lower volumes without being disturbed. The closed back also stops much of the sound leaking out, so you're less likely to bother those around you.

Products with open drivers tend to sound more expansive, with freer, more precise sound reproduction, but they do less to block external noise. They're a good choice if you want the best sound quality in a quiet environment, but you should choose earphones or headphones with closed drivers for a noisy commute.

NOISES OFF

If you spend a lot of time in a noisy office, on public transport or in a plane, you should look for a pair of earplug earphones with a closed driver. Alternatively, you could choose noise-cancelling headphones. These use active electronics to detect and counteract regular, low-frequency sound such as that produced by an air-conditioner or jet engine. You are then free to enjoy your music, or even silence, undisturbed. We've tested four noise-cancelling pairs.

HEADPHONES

EARPHONES

TRUST
HS-0210p

★★★★

£7 inc VAT



Trust's awkward-looking HS-0210p earphones are the most affordable product in this test and come with no accessories. They're designed for use when playing sport, and each driver is integrated into a rubber loop that fits around the outer ear. They are quite comfortable to wear and the ear loops make them practically impossible to dislodge accidentally.

The drivers move up and down, and twist freely to help you find a comfortable fit. Unfortunately, there's no stop to prevent them rotating through 180°. There are no markings to show which is right or left and if one gets twisted around the two look identical.

When positioned correctly, they produce a lot of volume and plenty of bass, but their sound is flabby and poorly defined. There's not much clarity to high mid-range and treble frequencies, so the subtleties are lost from acoustic or classical music. They don't sound harsh, though, so the HS-0210p won't become tiring to listen to over a long jog. They're reasonably good value if you're not fussy about sound quality.

EARBUDS 3.5mm stereo jack plug, 1.25m cable, 20g
PART CODE HS-0210p **SUPPLIER** www.komplett.co.uk
DETAILS www.trust.co

- ✓ Very affordable
- ✗ Left and right channels not marked
- ✗ Muddy sound

SENNHEISER
MX400

★★★★★

£10 inc VAT



Sennheiser's MX400 earphones are included with many iRiver MP3 players. These simple earbuds with open-backed drivers do little to block out environmental noise, but they're light and can be worn comfortably with or without the supplied foam covers. They don't look as good as many earphones, but their dark blue plastic makes them comparatively discreet.

Although they're affordable, the MX400s are the best-sounding earphones here. With a flat, un-equalised input, they produce little bass but plenty of clearly defined mid-range and treble, bringing vocals and guitar parts to life. If you increase the bass on your player, they deliver precise, well integrated lows. This gives them a rounded and powerful sound that suits a wide range of music.

With an open design, the MX400s aren't ideal for commuting or a noisy workplace, and you'll need to increase your player's bass levels to get the most from them. They're an excellent replacement for the lacklustre pairs that come with most MP3 players.

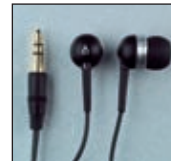
EARBUDS 3.5mm stereo jack plug, 1m cable, 6g
PART CODE 04853 **SUPPLIER** www.dolphinmusic.co.uk
DETAILS www.sennheiser.co.uk

- ✓ Balanced and well-defined sound
- ✓ Comfortable fit
- ✓ Inexpensive

CREATIVE
EP630
Earphones

★★★★★

£20 inc VAT



Creative's EP630 Earphones look like the black version of Sennheiser's CX300 pair, reviewed in *What's New, Shopper* June 2006. The EP630s' compact and light drivers fit comfortably into the ear, blocking out a lot of external noise. Be careful to fit them at the right angle, though, or the narrow speaker outlet could be obstructed, making them sound muffled.

The EP630 earphones look smart and inconspicuous, and they leak very little noise so you won't disturb others. Their rich, powerful sound helps to enhance music sources with a flat output, such as an MP3 player at its default EQ setting. There's an abundance of meaty bass and clear, natural treble, but we found lower vocal frequencies just a little muted.

Unlike the CX300 earphones, the EP630s didn't become tiring after long periods of use. Their reasonable price, strong bass response and good noise isolation make them a great iPod upgrade, particularly if you spend time commuting on noisy public transport.

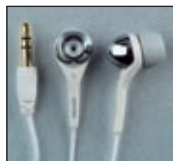
EARPLUGS 3.5mm stereo jack plug, 1.2m cable, 9g
PART CODE 51MZ0085AA001
SUPPLIER www.iheadphones.co.uk
DETAILS <http://uk.europe.creative.com>

- ✓ Detailed, bassy sound
- ✓ Comfortable in-ear fit
- ✗ Slightly muted mid-range

PHILIPS
SHE-9501

★★★★

£22 inc VAT



Philips supplies a good range of accessories with the SHE-9501 earphones, including a choice of rubber earpieces. When not in use, you can clip the earphone drivers into a small, hard plastic case and bundle the whole lot into the soft pouch. There's slightly more cable to the right-hand earphone, so the standard lead is ideal for reaching an MP3 player in a shirt pocket. You'll need to use the extension cable if you put the player in a trouser pocket or bag.

We weren't impressed with the sound from these earphones. They require a comparatively high signal to produce a loud volume and don't sound particularly precise. Some mid-range frequencies are harsh, making the saxophone in our jazz test track piercing.

The SHE-9501 earphones look stylish, but like all white earphones they're attention grabbing and might attract unwanted attention from muggers. They're similarly comfortable, but their open drivers leak music and they don't block noise effectively. The Creative or Sennheiser in-ear sets are better.

EARPLUGS 3.5mm stereo jack plug, 60cm cable, 47g
PART CODE SHE-9501/00 **SUPPLIER** www.amazon.co.uk
DETAILS www.philips.co.uk

- ✓ Plenty of accessories
- ✗ Slightly harsh sound
- ✗ Surprisingly leaky for earplugs

BOSE
in-ear
headphones

★

£69 inc VAT



Although we've seen other earphones that cost as much as Bose's in-ear set, this is the most expensive pair we've reviewed to have an open driver design that blocks little noise. They feel particularly well made and come with a nice semi-rigid case and alternative rubber sleeves.

The in-ear headphones feel comfortable at first, but they began to feel big and heavy in the ear after 15 minutes or so. Switching to the smallest sleeve size didn't seem to help much. Given their high price, we were disappointed with their sound quality. Their mid-range and treble response is muted, leaving acoustic and classical music sounding confined.

In louder rock, dance and hip-hop tracks, thick bass and low mid-range frequencies crowd out the other elements. We were able to improve this by reducing the bass level on our sound source, but Sennheiser's MX400 set and Creative's EP630s sound better. We can think of no reason to choose the Bose set over one of the two cheaper pairs.

EARBUDS 3.5mm stereo jack plug, 1.24m cable, 18g
PART CODE 040226 **SUPPLIER** Bose 0800 085 9021
DETAILS www.bose.co.uk

- ✓ Feel well made
- ✗ Expensive; not especially comfortable
- ✗ Thick, overwhelming low-end sound

HEADPHONES

TDK
HP-100

★★★★★

£10 inc VAT



TDK's HP-100 headphones are the second cheapest product in this test. They don't look promising, with foam earpads and thin, flexible stems leading to the headband. Only a silver dollop on each driver livens up the grey plastic.

The HP-100 headphones are very comfortable to wear. They're light with a soft rubber headband lining and they don't clamp your head too tightly. Although this helps to prevent aches in the outer ear, it makes them fairly easy to dislodge and means the closed drivers can't form an effective seal against external noise. Plenty of music leaks out, too.

For the price, it's hard to fault their warm, balanced sound. Mid-frequencies are surprisingly detailed and treble is present without being overpowering. With a slightly boosted bass input, they sound good with a range of music; however, a slight sloppiness at very low frequencies means they sound flustered when playing dance music with very low bass. They're excellent value, though.

ON-EAR HEADPHONES 3.5mm stereo jack plug, 1.2m cable, 64g **PART CODE** HP-100
SUPPLIER www.maplin.co.uk **DETAILS** www.tdk-europe.com

- ✓ Comfortable; balanced sound
- ✓ Good value
- ✗ Feel flimsy

SENNHEISER HD205

★★★★
£22 inc VAT



At £22 these large, over-ear headphones are very affordable, but they certainly don't look cheap. Their headband and ear cups are thickly padded, and the different sections are made from matching matt black plastic with silver highlights. The right-hand driver can rotate forward or backwards, so DJs can listen with one ear.

The stiffly sprung headband holds the drivers firmly against your head. This blocks a fair amount of ambient noise, but their vice-like grip soon becomes uncomfortable. The pads have a fairly small diameter and feel restrictive if you have large ears.

This set has a meaty, bass-heavy sound that's best suited to dance music. It can reproduce subtle details in quieter tracks, but the accentuated bass and very low mid-range means any bass parts tend to crowd other elements out. These headphones are good value if you DJ or mostly listen to dance music, but anyone with a large head or ears may find them uncomfortable.

OVER-EAR HEADPHONES 3.5mm stereo jack plug, 3m cable, 206g PART CODE S00263 SUPPLIER www.amazon.co.uk DETAILS www.sennheiser.co.uk

- ✓ Affordable and well-made
- ✓ Good value for dance music
- ✗ Uncomfortable; bass-heavy

PANASONIC RP-HTX7E-C

★★★★
£50 inc VAT



Opinion was divided in the *Shopper* office over the self-consciously retro style of Panasonic's RP-HTX7E-C headphones. The cream headphones have a leather-effect headband and braided cables leading to the ear cups, which slide on thin chrome rails. The design is stylish, but not to everyone's taste.

If you like music with lots of treble, these headphones are ideal. They're detailed across the mid-range, but have a heavily emphasised top-end that doesn't suit many types of music. We found it hard to flatten their sound. Even after removing some treble and high mid-range frequencies and boosting the low mid-range, their exaggerated sound suited only certain dance music. The strings in our classical music sounded thin and rock music lost its impact.

Although the notch-less rails don't hold the ear cups totally still, this set is comfortable and light. It looks distinctive and feels well made, but it's expensive and could prove fragile. For this money, we expect better sound quality.

OVER-EAR HEADPHONES 3.5mm stereo jack plug, 1.2m cable, 158g PART CODE RP-HTX7E-C SUPPLIER <http://shop.panasonic.co.uk> DETAILS www.panasonic.co.uk

- ✓ Convincing retro design
- ✗ Over-bright, saturated sound
- ✗ A little expensive

GRADO SR60

★★★★★
£80 inc VAT



Grado's SR60 headphones are among the most expensive in this test. They look old fashioned, with hard, textured plastic and raised silver lettering around the drivers. You can peer through the vents at the wires and solder inside each driver, but the headphones feel rugged and are extremely comfortable to wear. They come with two metres of thick, inflexible cable.

The open back design lets sound pass through, making this one of the most leaky sets here. This could prove a problem if you want to listen to music at high volumes in public. The headphones need a louder than average input, too, so they're not ideal for a quiet MP3 player.

The SR60 headphones sound better than any other headphones we've tested. Acoustic and electric instruments and vocals were even and balanced in all the music we tried, and our folk and classical test tracks were reproduced with astounding detail and clarity. If you want headphones to bring out the best in any music, this is the set to get.

ON-EAR HEADPHONES 3.5mm stereo jack plug, 2m cable, 204g PART CODE SR60 SUPPLIER www.superfi.co.uk DETAILS www.gradolabs.com

- ✓ Warm, natural sound
- ✓ Comfortable
- ✗ Very leaky

SONY MDR-SA1000

★
£88 inc VAT



Sony's huge MDR-SA1000 headphones are the largest in this review. They have a particularly wide headband and the ear cups are cavernous, but they feel light and are very comfortable to wear. The headband's design avoids pressure on the crown of the head and the padded ear cups don't crush your ears.

These headphones are designed for listening at home, so they have a very long cable that's braided to help reduce tangles. Although it's fitted with a standard 3.5mm stereo jack plug, we found that these headphones needed an extremely loud input signal beyond the capabilities of some MP3 players. They come with a 6.3mm adaptor and are more suited to use with a home hi-fi.

Sony says the MDR-SA1000 can reproduce frequencies up to 80,000Hz, which is way beyond the range of human hearing and most hi-fi equipment. They produce even more treble than Panasonic's RP-HTX7E-C set, and even heavy equalisation couldn't balance out the sound. The Grado headphones are cheaper and sound better.

OVER-EAR HEADPHONES 3.5mm stereo jack plug, 3.5m cable, 265g PART CODE MDR-SA1000 SUPPLIER www.amazon.co.uk DETAILS www.sony.co.uk

- ✓ Comfortable
- ✗ Uneven sound
- ✗ Need a loud input

NOISE-CANCELLING SETS

TRUST HS-0600p

★
£22 inc VAT



Trust's HS-0600p is the most affordable set of noise-reduction headphones we've tested. The drivers loop over the top of your ears and are joined together by a neckband, which contains an AAA battery. A switch on the right-hand driver controls the noise-reduction circuitry.

For a set of neckband headphones the HS-0600ps are heavy and uncomfortable. Most people who tried them found that their ears began to hurt, and many complained that the neckband restricted their head movement. They don't make an effective seal against the outer ear, either, so the noise reduction system is less effective than those of the other pairs.

These headphones produced muffled music that lacked detail. Boosting the treble improved the results, but these are the worst-sounding noise-cancelling headphones here. They may be affordable, but they don't include a protective pouch or case and don't fold down as small as Sennheiser's PXC300 pair. We'd recommend spending more for better noise reduction and sound quality.

ON-EAR HEADPHONES 3.5mm stereo jack plug, 1.2m cable, 82g PART CODE 14836 SUPPLIER www.techstore.co.uk DETAILS www.trust.com

- ✓ Affordable
- ✗ Very uncomfortable; sound poor
- ✗ Weak noise-cancelling

CREATIVE HN-700

★★★★★
£30 inc VAT



At just £30, Creative's HN-700 set is competitively priced for a pair of noise-cancelling headphones. Its large drivers are open, so they block little background noise unless the noise-cancelling circuitry is switched on. For such an affordable pair of headphones, the HN-700s feel well put together. They can be adjusted for a comfortable fit and fold down into a surprisingly compact space.

The active noise-cancelling system is very effective. There's a small amount of hiss when it's active, but this affects most pairs and is far more peaceful than the roar of jet engines or the hum of office air conditioning. Unfortunately, these headphones don't sound particularly good when playing music. There's little treble or high mid-range response, and even boosting the top-end equalisation of our sound sources didn't help much.

This set isn't particularly good for listening to music, but it is cheap and effective at blocking external noise. If you only want to listen to spoken word, or to block out the world and sit in silence, this is a decent buy.

OVER-EAR HEADPHONES 3.5mm stereo jack plug, 1.5m cable, 200g PART CODE 51M20205AA000 SUPPLIER www.dabs.com DETAILS <http://uk.europe.creative.com>

- ✓ Well made and inexpensive
- ✓ Effective noise-cancellation
- ✗ Muffled sound lacks treble

HEADPHONES

SONY
MDR-NC6

★★★★

£49 inc VAT



Sony's MDR-NC6 headphones don't look as if they cost £49. The housing for the AAA battery above the right earphone gives them a lopsided appearance. They're built from different coloured plastics, none of which matches, and they don't fold away. The drivers rotate through a range of positions, but the unpadded headband quickly becomes uncomfortable.

After switching them on the electronics take a second or so to quash background noise, but you soon notice the loud hiss produced by the circuitry. Fortunately, moderately loud music can drown this out. These headphones do justice to a range of genres, with well-defined sound across their frequency range. Sony's specifications state a comparatively low 15,000Hz maximum frequency, but treble sounds clear and crisp.

The MDR-NC6 set doesn't look as good or feel as well made as Creative's HN-700s, but it sounds better. It's worth the money if you listen to loud modern music, but the hiss takes the shine off classical and acoustic pieces.

ON-EAR HEADPHONES 3.5mm stereo jack plug, 1.5m cable, 150g PART CODE MDR-NC6

SUPPLIER www.dabs.com DETAILS www.sony.co.uk

- ✓ Good sound quality
- ✓ Comfortable
- ✗ Pronounced noise from electronics

SENNHEISER
PXC250

★★★★★

£57 inc VAT



Sennheiser's PCX250 is a small set of noise-cancelling headphones. The noise-cancelling electronics and battery are located in a separate unit connected to the headphones by a cable, which makes the headphones and headband extremely light and comfortable.

The PCX250s have closed drivers, so simply wearing them blocks out some background chatter. The active noise-cancelling circuitry is particularly effective, and replaced the hum of London traffic with blissful near-silence. This set worked superbly to hush the air-conditioner on a train and even tamed the Tube enough for quiet acoustic music to sound great.

This set of headphones isn't cheap, but Sennheiser does throw in a few accessories. A case is included, along with an adaptor for aircraft sound systems. This is the most expensive set of noise-cancelling headphones here, but if you want to block out the noise of commuting or your colleagues it's easily the best choice.

ON-EAR HEADPHONES 3.5mm stereo jack plug, 1.8m cable, 65g PART CODE 04924 SUPPLIER www.amazon.co.uk DETAILS www.sennheiser.co.uk

- ✓ Small and lightweight
- ✓ Effective noise cancelling
- ✓ Good sound reproduction

Labs verdict
Headphones

Whichever type of headphones you prefer, you'll find a pair to suit you here. If you prefer earphones, Creative's noise-blocking EP630s are a great choice for commuters. Sennheiser's open-backed MX400s are even better, with a truer, more balanced sound, and area bargain at just £10. They win a Best Buy award. If you want headphones that actively remove background noise, we recommend Sennheiser's PXC250s. They're comfortable, sound great and work well at removing noise. They're also our Best Buy.

If you want a larger set, we recommend Grado's SR60s. This set reproduces any music accurately and is comfortable, so it also gets our Best Buy award. If your budget is tight, consider TDK's HP-100s. They don't sound as good, but at just £10 they're great value, and our Budget Buy. **CS**

EARPHONES

SENNHEISER MX400
★★★★★


HEADPHONES

TDK HP-100
★★★★★

GRADO SR60
★★★★★

NOISE-CANCELLING SETS
SENNHEISER PXC250
★★★★★


EARPHONES

		BEST BUY				BUDGET BUY	
MANUFACTURER	TRUST	SENNHEISER	CREATIVE	PHILIPS	BOSE	TDK	SENNHEISER
Model	HS-0210p	MX400	EP630 Earphones	SHE-9501	in-ear headphones	HP-100	HD205
Rating	★★★★	★★★★★	★★★★	★★★	★	★★★★	★★★★
SPECIFICATIONS							
Type	Earbuds	Earbuds	Earplugs	Earplugs	Earbuds	On-ear headphones	Over-ear headphones
Driver	Open	Open	Closed	Open	Open	Unknown	Open
Active noise-cancelling	No	No	No	No	No	No	No
Power source	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Sensitivity	108dB	125dB	106dB	102dB	Not stated	109dB	112dB
Frequency response	20-20,000Hz	18-20,000Hz	6-23,000Hz	6-23,500Hz	Not stated	20-20,000Hz	14-20,000Hz
Impedance	16 ohms	32 ohms	16 ohms	16 ohms	Not stated	32 ohms	32 ohms
Weight	20g	6g	9g	47g	18g	64g	206g
Cable length	1.25m	1m	1.2m	60cm	1.24m	1.2m	3m
Supplied accessories	None	Rigid spool case, foam covers	Spare rubber earbuds	Soft pouch, spare rubber earbuds, 60cm extension cable	Semi-rigid case, spare rubber earbuds	None	Soft pouch, 6.3mm stereo jack adaptor
BUYING INFORMATION							
Price including VAT	£7	£10	£20	£22	£69	£10	£22
Supplier	www.komplett.co.uk	www.dolphinmusic.co.uk	www.theadphones.co.uk	www.amazon.co.uk	Bose 0800 085 9021	www.maplin.co.uk	www.amazon.co.uk
Details	www.trust.com	www.sennheiser.co.uk	http://uk.europe.creative.com	www.philips.co.uk	www.bose.co.uk	www.tdk-europe.com	www.sennheiser.co.uk
Part code	HS-0210p	04853	51MZ0085AA001	SHE-9501/00	040226	HP-100	500263

HEADPHONES

		BEST BUY				BEST BUY	
MANUFACTURER	PANASONIC	GRADO	SONY	TRUST	CREATIVE	SONY	SENNHEISER
Model	RP-HTX7E-C	SR60	MDR-SA1000	HS-0600p	HN-700	MDR-NC6	PXC250
Rating	★★	★★★★★	★	★	★★★★	★★★	★★★★★
SPECIFICATIONS							
Type	Over-ear headphones	On-ear headphones	Over-ear headphones	On-ear headphones	Over-ear headphones	On-ear headphones	On-ear headphones
Driver	Closed	Open	Open	Closed	Closed	Open	Closed
Active noise-cancelling	No	No	No	Yes	Yes	Yes	Yes
Power source	N/A	N/A	N/A	1x AAA	2x AAA	1x AAA	2x AAA
Sensitivity	99dB	98dB	100dB	110dB	121dB	106dB	106dB
Frequency response	7-22,000Hz	20-20,000Hz	8-80,000Hz	20-20,000Hz	20-20,000Hz	30-15,000Hz	10-21,000Hz
Impedance	40 ohms	32 ohms	70 ohms	32 ohms	18 ohms	20 ohms	Unknown
Weight	158g	204g	265g	82g	200g	150g	65g
Cable length	1.2m	2m	3.5m	1.2m	1.5m	1.5m	1.8m
Supplied accessories	2m extension cable, 6.3mm stereo jack adaptor	6.3mm stereo jack adaptor	6.3mm stereo jack adaptor	AAA battery	Soft pouch, aeroplane adaptor, 2x AAA batteries	Aeroplane adaptor, AAA battery	Semi-rigid case, aeroplane adaptor, 6.3mm stereo jack adaptor, 2x AAA batteries
BUYING INFORMATION							
Price including VAT	£50	£80	£88	£22	£30	£49	£57
Supplier	http://shop.panasonic.co.uk	www.superfi.co.uk	www.amazon.co.uk	www.techstore.co.uk	www.dabs.com	www.dabs.com	www.amazon.co.uk
Details	www.panasonic.co.uk	www.gradolabs.com	www.sony.co.uk	www.trust.com	http://uk.europe.creative.com	www.sony.co.uk	www.sennheiser.co.uk
Part code	RP-HTX7E-C	SR60	MDR-SA1000	14836	51MZ0205AA000	MDR-NC6	04924